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ART. I.—CASE OF CYNANCHE LARYNGEA.

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George Faus—a child of four years, healthy, well formed, and active—had been subject, occasionally, for two years, to tonsillitis, with enlargement of glands of the neck, and a tendency to laryngeal inflammation.

In one of these attacks, I attended him some months ago. I was again called to him July 5, 1841. He had been three days sick, with sore throat, swollen tonsils, and enlargement of cervical glands. For the last twenty-four hours, he had had stridulous breathing, the inflammation having extended into the larynx. He was bled, leeches to the neck—puked with a combination of calomel, tartar emetic, and ipecacuanha—blistered at the nape of the neck, and over the top of the sternum; swabbed in the throat with a tincture of honey and sulphate of copper, and touched with lunar caustic. The disease yielded in the fauces, the swelling of the tonsils diminished, but, after thirty-six hours of apparent improvement, re-appeared, without any known cause, with increased energy in the larynx. The breathing became gradually, in spite of the treatment, more noisy and oppressed, with heaving of the sternum, congestion of veins of neck, and suffusion of face. He expired on the 11th of July, suffocated by the false membrane in the cavity of the larynx. There was no indication of disease of the brain. The child's intellect was good to the last. From auscultation, there was no reason to suspect inflammation of the lungs. The child might probably have been saved by tracheotomy, which I urged on the parents, but to which they did not consent till it was too late to be of any avail.

Dissection of Thorax and Neck, July 12.—All the large cervical veins, and all the cavities of the heart, filled with black coagulated blood. The thymus and thyroid glands were larger than usual at that age. The deep-seated cervical and bronchial glands were unusually large, several being of the size of an almond shell. There were no pleuritic adhesions, no water in the chest, and but a teaspoonful or two in the pericardium. The lungs of both sides were every where crepitant, but engorged with blood and serum, exhibiting no manifest signs of pneumonia. The tonsils but little enlarged. Some superficial excoriation at the lower part of pharynx, caused, probably, by the use of caustic. The epiglottis red and injected; the mucous membrane, surrounding the upper opening of the glottis, swollen and of a pur-

plish red hue, from the intensity of the inflammation. The whole cavity of the glottis was blocked up with a secretion of creamy tenacious lymph. On opening the trachea, the false membrane was seen to terminate abruptly about half an inch below the cricoid cartilage. The mucous membrane of the trachea and bronchia was slightly red, and injected as in catarrh, and much frothy mucus was seen at the bifurcation of the trachea. Not a flake of false membrane was found lower than half an inch below the larynx. The sound emitted by the child in breathing, was sharper and dryer; in other words, more laryngeal, and less tracheal, than in ordinary croup.

ART. II.—ENDERMIC USE OF SULPHATE OF QUININE IN INTERMITTENTS.

[Extracts from letters of Dr. G. Lane Corbin, dated Laneville, Warwick Co., Va., to Dr. John Redman Coxe, on the utility of the external application of sulphate of quinine in the cure of intermittents.]

"I have lately had a long standing and tormenting patient with intermittent fever of two years' continuance, during which period, every article hitherto recommended was tried with little or no perceptible advantage. Twenty-four hours before the expected ague, I applied five blisters, which were kept on eight hours. They drew very well; the places were washed with soap and water, and the dead cuticle removed from each sore, which were then coated with sulphate of quinine, which was reapplied as long as they continued to discharge. The patient has had no return of his ague, and has enjoyed very good health ever since.

"A few days ago I was called to a child with ague and fever, as its parents informed me, of six months' standing. I applied a single blister over the abdomen, which raised the skin sufficient for removal, and after ablution, as before, the quinine plaster was applied with the happiest result. Now both of these patients had taken many different articles previously to the employment of the quinine plasters, and possibly this previous treatment might have aided in the ultimate cure." &c.—*May 29, 1841.*

July 20.—"In my last, I mentioned the success that had attended the use of sulphate of quinine in old cases of intermittent fever. I now add two more to the number.

"E. S., aged twenty-eight, complains that for eighteen months he has been a martyr to ague and fever. At no one time during that period has he been free from it three weeks at a time. Appetite good—bad complexion—great weakness, and occasional shortness in breathing. Ague every other day at 11 o'clock—bowels open, discharges thin, and not very bilious—tongue clean, and of a bluish hue. Ordered five blisters to the stomach and each extremity, to be applied an hour before the expected attack, and to remain on eight hours; the skin to be then removed, and the following plasters applied—of sulphate of quinine 5 drams, simple cerate 4 oz., incorporated well together, and spread of the thickness of a blister. The application to the abraded surface was continued until the places became well. If the patient complains very much of the irritation, the plasters to be removed after the first twenty-four hours, the parts to be bathed with milk and water, and then reapplied. This patient has had no return of the ague, and only one disagreeable symptom, viz. strangury, which was relieved by nitre and demulcents.

"A girl of seventeen, irregular in her menstrual periods, had been treated by a physician with aloetic pills, and vol. tinct. of guaiacum, for eight months, with partial relief as to the menstruation, but none as to the ague; feet

somewhat swelled, and slight swelling under the eyes; her bowels irregular, sometimes very constipated, at others, loose and watery. I ordered six grains of blue mass every night; and two hours before the expected ague, to apply a large blister over the stomach, and one to each thigh, for twelve hours, treating the sores as above. The results were the same. The blue pill was continued only three nights. In this case, the sores mattered for five weeks, and the girl experienced great pain from the plasters, but she had no return of the ague after the first application of the quinine. I attributed, the uncommon irritation more to the peculiar temperament of the patient, than to the effects of the quinine."

ART. III.—*Analytical Account of the Researches and Rectifications in the practice of Auscultation and Percussion, made by Dr. Joseph Skoda, Teacher of Clinical Medicine in the Hospital of Vienna.* By WILLIAM DRYSDALE, M. D. and JOHN R. RUSSEL, M. D.¹

[Of the work of Dr. Skoda, and of the nature of his researches, a short sketch will be found in the second department of this Journal. Our limits do not allow us there to introduce so fully as they deserve, the researches of the author, and the rectifications which these researches have led him to propose. But we have great pleasure in inserting here the following account by two learned young friends, who have spent a considerable time in Vienna, and who attended the lectures, and enjoyed the benefit of the personal instructions and observations of Dr. Skoda. This account is the more valuable, that it was prepared upon the spot, and almost under the eye of Dr. Skoda, and was from time to time read to him as it was prepared, and therefore is most likely to contain a correct and faithful account of his views, which, it will be observed, are not less remarkable for their originality, than for the number and importance of the rectifications which the author introduces.—EDITOR OF THE EDIN. JOUR.]

I. Auscultation.

The auscultatory phenomena of the respiratory organs may be divided into those of the voice, the sounds of respiration, and those produced by the rubbing of the pleura.

On examining the chest of healthy persons, it will be found that the sound of the voice is heard to a certain degree, amounting to strong resonance in some parts of the chest, while in others it is either not heard at all, or merely as an indistinct humming or buzzing sound. The strength of the sound thus heard in healthy persons, is greatest between the shoulder-blades and the spines, weaker under the clavicles, and still weaker in the axilla, and over the rest of the chest; but it varies very much in intensity in different individuals. In disease it is so much modified, both in intensity and in the parts of the chest where it is heard, that many important indications may be derived from the varieties which it assumes.

Before considering the different kinds of resonance in detail, it is necessary to give an explanation of the mode in which the sound of the voice is transmitted through the chest.

As the voice is produced in the larynx, it must in all cases, whether weakly or strongly heard, be transmitted thence; and it would at first sight appear that the strong resonance is produced by a good, and the weak by a bad conducting power of the parts lying between the larynx and the parietes of the chest. Accordingly, it was long almost universally held by stethoscopic observers, that the increased resonance which accompanies a hard compressed state of the parenchyma of the lungs, or the presence of fluid in

¹ Edin. Med. and Surg. Jour., July, 1841, p. 88.

the pleura, depends on the increased conducting power of the intermediate substance. Several pathological facts, however, tend to throw doubt on the correctness of this explanation.

For example, if the chest be examined by repeated auscultation at successive intervals in the course of pneumonia, when there is hepatisation of the lung, resonance of the voice, at one time very strong, at another only weak, will be perceived, while the other signs, particularly percussion, show that no change has taken place in the degree of hepatisation. The cause of the occasional disappearance of the resonance of the voice, is the obstruction by fluid matter of the bronchial tubes of the hepatised portion of the lung; for the resonance reappears readily when the patient makes a deep inspiration, or coughs. This disappearance and return of the resonance, while in other essential particulars the hepatisation remains the same, does not accord with the commonly assigned cause; for, according to it, it would be a matter of indifference whether the bronchial tubes contained air or not. In pleuritic effusion into the cavity of the chest, the intensity of the resonance of the voice diminishes as the quantity of the exudation increases; while the contrary should happen, if the increased distinctness of the voice, at any stage of the effusion, depended on the superior conducting power of the interposed fluid. These contradictions to the commonly received explanation, demand more minute examination of the grounds on which it has been adopted.

The question of the superiority in conducting power of dense over rare bodies, has been too much regarded as an abstract law, without paying sufficient attention to the particular circumstances which may modify or prevent its operation. It is quite true that dense bodies conduct the sound more readily than rare ones, but only if the sound be confined to the medium in which it is formed, for it passes with difficulty from one medium to another. For example, the slightest scratching at the end of a long pole is heard distinctly when the other end is placed in contact with the ear, while, if this be not done, (*i. e.* if the sound be transmitted by the air,) nothing at all is heard. The striking together of two stones under water, when the head is immersed, is distinctly heard, while no sound is audible when it is taken out. On the other hand, the human voice which is formed in the air, is heard furthest in that medium. When the head is dipped into water, sounds produced in the air are heard very faintly, or not at all; and solid substances, as a board or a wall, interrupt sounds more or less completely. The laws of physics teach us further, that sound is more or less reflected in its transmission from a rare medium to a denser one, and that the new medium takes up less than would have been propagated in the same space had it remained in the medium by which it had been till then transmitted; and the less sound is taken up by the new medium, the greater the difference of consistence and coherence between the two media. The reason why enclosed passages and tubes, whose walls are of solid materials, conduct sounds better than the open air is, because they reflect the vibrations, which are thus confined to a small space, and prevented from being dispersed and lost in the surrounding air. If the walls of the tube were instrumental in conducting the sound, it is singular that a hollow tube should be used as a stethoscope, and not a solid cylinder of wood or metal. The voice, therefore, reaches the parenchyma of the lungs, not through the solid parts, but through the air in the trachea or bronchia, and ought to be carried further in the healthy lung, in which the air penetrates into the air-cells, than in the hepatised lung, where the air-cells and smaller bronchia are obliterated. The vibrations, likewise, should pass more easily from the ear into the light tissue of the healthy lung, than to the condensed parenchyma of the hepatised one, according to the law explained above.

A consideration of these facts would be almost sufficient in themselves to prevent us from acquiescing in the ordinary opinion, that the reason of the voice being louder when the lung is hepatised, than when it is sound and spongy, depends upon its being better conducted by the tissue of the lung

when dense, than when in its natural condition. Moreover, Dr. Skoda has set this matter at rest by the following simple experiment, which he usually performs in the presence of his class, and which any one may easily repeat.

If the ear be applied to a stethoscope placed successively on corresponding parts of a sound and then of a hepatised lung removed from the body, the voice of another person who speaks through a stethoscope placed upon the lung at an equal distance in both cases, will be heard somewhat more distinctly in the sound than in the hepatised lung: but the distinction is so insignificant, that were the reverse the case, it would not account for the very marked difference in such a condition of the lungs in the living subject.

Dr. Skoda explains the different degrees of strength of the voice in the chest by the law of consonance.

The fact that a sound can be heard, observes Dr. Skoda, as distinctly at a distance as at the place where it is produced, can only be explained either by its diffusion being prevented, and its being obliged to remain concentrated during its progress, or by its being reproduced in its course by means of consonance, and thus increased. But if a sound be heard louder at a distance than at the place where it was originally formed, this must be by means of consonance alone.

Consonance is a term adopted by Dr. Skoda to express a well known phenomenon; and it may be here properly explained.

A tense guitar string sounds in unison with a note produced in its vicinity, either by another musical instrument or by the voice. A tuning fork held in the air, emits a much weaker sound than when placed upon a table or chest. The table or chest must increase the intensity of the sound, by assuming the same vibrations as the tuning fork, or, in other words, by consonating with it. The note of a Jew's harp is scarcely perceptible when it is struck in the air, and it is heard much more distinctly when played in the mouth. Thus the air in the mouth must increase the sound of the Jew's harp, *i. e.* must consonate with it.

It sometimes happens that the voice is heard more strongly at the thorax than at the larynx, which in itself is sufficient to show that its strength is increased by means of consonance within the chest. The different degrees of the intensity of the voice heard at the thorax, may be explained by the different strength of the consonance within the chest. To ascertain these changes, we must discover what it is within the chest that consonates with the voice, and by what circumstances the consonance is liable to be altered.

The voice, as it issues from the mouth, is composed of the sound formed at the larynx, and the consonating sounds produced in the pharynx, mouth, and nasal cavities. This is shown by the alteration the voice undergoes by the shutting and opening of the nostrils and mouth, while there is no change made in the larynx. The pitch of the voice is evidently fixed by the larynx alone, and the opening and shutting of the nostrils and mouth has no influence upon it; the articulation of the voice, however, and its timbre, depend upon the mouth and nostrils.

As it is certain that the air in the pharynx, mouth, and nostrils, consonates with the sound formed in the larynx, there can be no doubt that the air in the trachea and bronchia may also be thrown into consonant vibrations with the sounds formed at the larynx. Hence it is the air in the chest, and not the parenchyma of the lungs, which consonates with the voice at the larynx, as the latter seems ill adapted for consonating, being neither stiff nor sufficiently tense. Those substances, such as air, tense strings, membranes, slips of wood, and thin plates, in which a musical sound is most readily produced, are most easily thrown into consonant vibrations.

Air can consonate only when confined within a circumscribed space. In the open air, the human voice and every other sound is heard more feebly than in a room. The air confined within the box of a guitar, violin, piano, &c. consonates with the note struck on the strings, while the sound is not increased by the consonance of the external air. The strength of the con-

sonance depends upon the size and form of the space in which the air is confined, and upon the properties of the walls which bound the space. It appears that the consonating sound of the enclosed air will be the stronger, the more perfectly the walls reflect the sounds which spread through the air. A space surrounded by solid walls produces the greatest consonance, while in a linen tent the sound is but little increased. The cause of the strengthening of sounds by the speaking-trumpet, is well known.

The air inclosed in a defined space does not consonate with every sound; and should it consonate with several different notes or sounds, it does not reproduce them all with the same degree of strength and clearness. No body can sound in consonance with another, unless it is itself capable of producing the same note, or one whose vibrations form an aliquot part of the note. (Baumgaertner's Physik 4 Ausgabe Bd. I. p. 276.)

The deductions drawn from the physical principles just referred to, may be used in explaining the consonance of the voice in the chest. The air in the trachea and bronchia can consonate with the voice in as far as their walls resemble the walls of the larynx, mouth, and nasal cavities, in their power of reflecting sound. In the trachea, the walls of which consist of cartilage, the voice consonates almost as strongly as it sounds in the larynx. In the two branches, also, into which the trachea divides, the consonance must be nearly as perfect. On the entrance of the bronchia into the parenchyma of the lung, they have no longer cartilaginous rings, but merely thin irregular plates of cartilage interspersed in the fibrous tissue. As the bronchia ramify, these plates become smaller, thinner, and less numerous, and at last disappear altogether; and the finest twigs of the bronchia consist merely of membranous canals. In the normal state of the parenchyma of the lung, the air in the bronchia consonates less strongly with the voice than that in the trachea, in proportion to the smaller number of cartilages they contain. The conditions which increase the consonance of the voice in the air contained within the branches of the bronchia that ramify in the parenchyma of the lung, are either that the walls of the bronchia have become cartilaginous, or, if still membranous, very thick, or that the surrounding tissue of the lungs has become devoid of air;—in all these conditions the walls reflect the sound more strongly than the membranous walls of the normal bronchia; and there must be no interruption of continuity between the air in the bronchia and that in the larynx. If the air in a confined space be thrown into either original or imported autophonous vibrations, which give rise to sound, the surrounding walls not unfrequently partake of the same vibrations, and they do this the more readily the less stiff and hard they are.

The organ pipe vibrates when the air contained in it sounds. The same is true of the speaking-trumpet. The larynx vibrates with every sound produced in it, and its vibrations are perceptible through several inches of animal substance. The walls of the bronchiæ, which ramify within the parenchyma of the lungs, will, if the air within them consonate with the voice, be thrown into vibrations as readily as the larynx, and these vibrations may spread through a layer of fluid or muscle several inches thick, even to the parietes of the thorax, and the sounds produced by consonance in the bronchiæ will be perceptible at the walls of the chest.

In order to illustrate the above explanation of the difference of resonance of the voice in the chest, Dr. Skoda performed a considerable number of experiments, a few of which are the following.

As after death the bronchia are almost constantly found filled with fluid, the lungs themselves are rendered unfit for the purpose of experimenting, we must therefore choose other tissues whose powers of reflecting sound resemble severally that of the healthy and hepatised lung.

In this respect, a portion of the small intestine represents pretty well the more membranous parts of the bronchia, and a portion of the heart and liver the hepatised lung. If a person speak through a stethoscope placed on one end of a moderately inflated small intestine, consonant vibrations of the

voice, in the air within the intestine, may be heard by another person listening through a stethoscope placed on the other end of the intestine. If a layer of solid or fluid substance be interposed between the mouth of the stethoscope and the intestine, as, for example, a piece of liver or of intestine filled with water, the sound is heard very indistinctly, and not at all if the thickness of the interposed substance reaches half an inch.

If a passage be bored in the liver, so as not completely to pierce it through, and this be spoken into by means of a stethoscope accurately fitted into the entrance of it, the voice may be heard along the whole length of the passage, and for a considerable distance on each side, through a stethoscope placed over it, so strong, that it by far exceeds in intensity the voice proceeding from the mouth of the speaker, which is heard by the free air. The voice can still be heard even when a layer of liver, lung, cartilage, or bone, several inches in thickness, be interposed, although naturally weaker and weaker, as the thickness of the interposed substance is increased. If the liver be plunged in water, it is still heard through a stratum of water two inches thick. Similar experiments may be performed with the heart, and with the larynx and bronchi. If a piece of intestine, prepared as in the first experiment, be plunged under water, observing the precaution that no water gets into the stethoscope, the voice is heard much louder than if the experiment be made out of the water.

These experiments show tolerably distinctly what relation the voice in the thorax holds to the different conditions of the lungs. If the voice in the intestine, when not immersed in water, consonate so feebly as to be inaudible through a layer of lung, liver, or fluid half an inch thick, the consonance in the membranous bronchia will likewise be so slight as not to be heard at the walls of the chest. But, on the other hand, as the voice in the heart and trachea, and in the passage bored in the liver, consonated so strongly as to be heard through an interposed substance several inches thick, so will the voice in the bronchia of a lung, hepatised or infiltrated with tuberculous matter, consonate so powerfully as to be heard louder upon auscultation at the thorax, than as it issues from the mouth.

The consonating voice within the chest differs very much in clearness, loudness, and timbre or quality, from the voice proceeding from the mouth, and varies in itself at different times; but as the cause of these differences is not well understood, and as they do not afford any diagnostic signs, it is unnecessary to enter more minutely into them here.

II. *Morbid States of the Respiratory Organs which can give rise to an increased Resonance of the Voice.*

1st. *All morbid processes, by which the lungs can become void of air, dense, and solid, through infiltration of foreign matters.*—The walls of a bronchial tube surrounded with parenchyma, in this condition, must reflect the sound as well or better than the larynx. The strength of the consonance will be the greater, the denser the parenchyma. The diseased processes which bring about this change, are, hepatisation, infiltration of the parenchyma, with tuberculous matter and hemorrhagic infarction, or the pulmonary apoplexy of Laennec. In all these morbid states, before the increased resonance of the voice can take place, all the air must be completely expelled from the air-cells, and the condensed portion of lung must be of sufficient size to contain, at least, one of the larger bronchial branches, which must contain air, and be in communication with the larynx. The more extensive the hepatisation is, the more distinctly will the increased resonance be heard over the hepatised part. Accordingly, it is heard most frequently in extensive hepatisation, infiltration with tubercular matter, and the induration remaining after hepatisation. Incipient pneumonia, lobular hepatisation, (inflammation confined to individual lobules), œdema of the lungs, cause either no resonance, or only a trifling degree of it. Solitary tubercles,

however numerous, cause no resonance, so long as the intermediate tissue contains air. As Laennec's apoplexy of the lungs is a disease only of rare occurrence, it is seldom observed as a cause of increased resonance, especially as it is, in general, confined to a small extent of the lung.

2. *The diseased states through which the lung becomes devoid of air in consequence of compression.*—In this state, the lung never reaches the same degree of solidity as in pneumonia or tuberculous infiltration, and, therefore, the resonance is never so considerable as in the latter affections. To admit of resonance being produced by compression of the lung, the compressed portion must contain a bronchial tube, sufficiently strong, from the number of its cartilages, to prevent the obliteration which happens to the merely membranous bronchiæ. Of all the numerous causes of compression of the lung, such as effusions in the pleura, tumours in the chest or abdomen, aneurism and effusion in the pericardium, curvature of the spine, &c. by far the most frequent, indeed almost exclusive, one of increased resonance of the voice, is the presence of fluid or air in the cavity of the pleura.

The quantity of fluid necessary to produce resonance, varies very much in different cases—in some, half a pound being sufficient, while in others several pounds are required.

Varieties of the voice heard in the Thorax.—In the healthy state, in all parts of the chest, except those immediately to be mentioned, there is heard no proper resonance of the voice, but merely an indistinct buzzing sound; but in the space between the scapulæ, the voice may in many persons be heard with different degrees of distinctness, and sometimes so strong that a moderate concussion of the ear may be felt. The same may likewise sometimes be perceived in the spaces below the clavicles, though in a less considerable degree. This resonance of the voice never reaches that degree of clearness and strength which may present itself at any part of the chest affected with hepatisation or tuberculous infiltration.

The varieties in the morbid state are:—

1. Strong bronchophony, *i. e.* that resonance of the voice attended with simultaneous concussion of the ear, or, as Laennec describes it, which penetrates completely through the stethoscope.

2. Weak bronchophony, the voice without, or with imperceptible concussion of the ear, or which does not penetrate completely through the stethoscope.

3. The indistinct buzzing, with absence of all proper resonance.

4. The amphoric and metallic echoes.

The Strong Bronchophony.—The voice is heard as strong, or even stronger, or somewhat weaker, than in the larynx. Its appearance at any part of the chest indicates with certainty the existence under the spot of a solid, condensed portion of lung of considerable extent, which may either be in contact with the walls of the chest, or separated from them by a layer of solid or fluid exudation in the pleura of moderate thickness. The presence of fluid in the pleura can never of itself give rise to the strong bronchophony.

The diseased states, whose existence may be suspected from the presence of strong bronchophony, are,—Pneumonia, or pleuro-pneumonia, in an advanced stage, *i. e.* hepatisation, without any or with a moderate amount of pleuritic exudation; tuberculous infiltration of the parenchyma; hemorrhagic infarctus of considerable extent; thickening of the walls of the bronchia, with complete disappearance of the proper substance of the lung; carnification of the lung, or a very high degree of œdema of the lung, along with pleuritic effusion, by which the air has been completely pressed out of the tissue of the lung. Of these, however, the hepatisation and tuberculous infiltration are so much more frequently indicated, that the others may in practice be almost left out of view, as they are not only very rare, but also seldom reach such a height as to produce strong bronchophony.

Laennec thought that the resonance from cavities was of a peculiar kind, different from bronchophony. He named it pectoriloquy, and conceived it

to be pathognomonic of excavation in the lungs. On close examination, however, it will be found, that of the characteristic signs of pectoriloquy given by Laennec, only one refers to the voice itself, viz. that in pectoriloquy the voice penetrates the stethoscope completely, while in bronchophony it merely enters it; and all the others are only collateral circumstances, such as the circumscribed or diffused extent of the sound, its timbre, the general symptoms, &c. But, as in many conditions of the lung just described, the voice penetrates the stethoscope completely, the distinction proposed by Laennec falls to the ground, and pectoriloquy must be considered as nothing but strong bronchophony, and, therefore, cannot be received as alone sufficient to indicate with certainty the presence of a cavity. As a cavity in a hepatised lung is very rare, while in a tuberculous one it is very frequent, we shall, in the latter disease, when strong bronchophony is heard, seldom err in diagnosing a cavern at the place where it is strongest; but here our diagnosis does not rest on the character of the voice alone, but is aided by the other stethoscopic signs, and the general symptoms and course of the disease.

Weak Bronchophony.—To constitute weak bronchophony, the voice must be clearly and distinctly heard, but unaccompanied by little or no concussion of the ear. It may attend any of those diseases above enumerated as giving rise to strong bronchophony, and, in addition, pleuritic effusion of considerable extent and hydrothorax. Its presence alone is insufficient to determine the existence of fluid in the pleura, but recourse must always be had to percussion, auscultation of the respiration, position of the neighbouring organs in making the diagnosis.

Egophony.—A peculiar modification of the resonance of the voice has attracted the attention of stethoscopists, and there has been much discussion (on which our limits do not permit us to enter) to determine its cause and value as a diagnostic sign. It was conceived by Laennec to indicate the presence of a thin layer of fluid between the lung and the walls of the thorax; but later observations have established the fact, that it has been heard in cases of pneumonia and tuberculous infiltration, where there was no fluid at all in the pleura; also in cases where there was a very large collection of fluid in the pleura, and that it has been absent in cases of effusion of various amount; and finally, in some cases of effusion into the chest, as well as in pneumonia, without any fluid being contained in the pleura, individual words or even syllables partake of the trembling or egophonic character, while others are destitute of it. Egophony may be, therefore, regarded as a mere modification of bronchophony, which has no essential connection with the existence of fluid in the chest, and has otherwise no particular importance.

The strong as well as the weak bronchophony passes imperceptibly into the indistinct murmur, and there is no defined boundary between these two sounds. It is easy, indeed, to distinguish between the extremes; but the transition sounds it is extremely difficult to distinguish. No conclusion should be drawn from the resonance of the voice, unless it possesses the unquestionable character of bronchophony.

3d. Indistinct Buzzing Sounds.—This resonance of the voice affords no definite indication. It does not indicate that the organs are in a state of health, for, as many conditions are required to produce bronchophony, the absence of any one may prevent its appearance, e. g. the bronchial tubes may not be open, but obstructed with mucus, so that the consonance cannot take place, while, at the same, any one of the morbid conditions just mentioned may be present.

III.—Auscultation of the Respiration.

The passage of the air through the respiratory tubes causes in the healthy state certain sounds which are variously modified by disease.

The sounds produced by the respiration in the larynx, trachea, and larger

bronchia, are of a rushing character, most closely imitated by, (as in the pronunciation of the consonant *ch*, German or Greek χ .) impelling the air against the hard palate. During gasping it is produced voluntarily. The pitch may differ according to the width of the opening admitting the air, and is generally higher in the larynx than in the lungs; but the character just mentioned remains always constant.

The respiratory murmur in the air-cells and smaller bronchia, resembles very nearly the sound produced by drawing in the breath with the lips nearly closed, or pronouncing the consonants *v* or *b* while inspiring, or, as it were, sipping the air. It is only heard during inspiration; and during expiration, there is heard in the air-cells and smaller bronchia either no sound at all, or a very slight blowing noise between the sound of *f* and *h*, pronounced in expiration. The respiratory murmur in the air-cells is heard most strongly and distinctly in children.

Varieties of Respiratory Sounds.—(Skoda.)—1, Vesicular Respiration; 2, Bronchial Respiration; 3, Indeterminate Respiratory Sounds; 4, Amphoric and Metallic Respiration.

The name vesicular respiration can only be applied to that respiratory murmur which resembles sipping air, as above described. No other sound which does not display this character distinctly can merit the appellation, even although occurring in healthy individuals. Such a sound can be produced in no other way than by the penetration of the air into the air-cells. The sound during expiration has no connection with vesicular respiration, for it may be entirely wanting, or may be strong or weak, without in the least influencing our judgment as to the presence or absence of the vesicular murmur. The cause of the vesicular murmur is the friction of the air against the walls of the air-cells and fine bronchial tubes, which, by their contractility, oppose a certain degree of resistance to its entrance. From this may also be explained the great disproportion between the strength of the respiratory murmur in the pulmonary cells during inspiration and during expiration, for in the latter the air encounters no resistance. The case, however, is different in the larger bronchia, and more especially in the larynx and trachea, for the air has no resistance to overcome in its passage through these during inspiration; on the contrary, it is rather drawn in by the rarefaction of that within the chest, while in expiration it passes from a larger space—the air-cells into a smaller one, the bronchia, trachea, and larynx, and is consequently compressed; therefore, the expiration is usually louder in those parts than the inspiration. The presence of the vesicular respiration in any part of the lung, is incompatible in it with any of those diseased states which prevent the penetration of the air into the air-cells, viz. compression of the parenchyma by exudation; tumours in the chest; enlargement of the heart; infiltration of the parenchyma, with plastic (that is pneumonic) or tuberculous matter, or with blood, serum, &c. But it can coexist quite well with solitary tubercles, however numerous, and with inflammation confined to single small lobuli, *i. e.* lobular hepatitis, and is frequently found along with these morbid changes.

The vesicular respiration may be increased to puerile respiration, which depends upon rapid and deep inspiration, and increased resistance of the cells, or it may be rough, from a change in the constitution of the lining membrane of the bronchia. The rough vesicular murmur indicates the least degree of swelling, and is always combined with increased loudness of sound. The vesicular respiration passes insensibly into the indeterminate respiration, and the rough into the rattles.

The vesicular respiration may occur without any sound in expiration, or such a sound may be present in various degrees of intensity. Sometimes the expiration is much louder than the inspiration. When a sound is present in expiration, it always indicates that there is present in the bronchia some obstacle to the discharge of the air, and this generally consists in a swelling of their lining membrane.

Bronchial Respiration.—To admit of a sound being recognised as bronchial respiration, it must have the same character as laryngeal or tracheal respiration, and can only differ from these in its pitch. It is imitated by blowing through a tube, or with the tongue and mouth, as in the position necessary for pronouncing the consonant *ch* in inspiration or expiration, as before explained.

The bronchial respiration indicates precisely the same states as the weak bronchophony, and these need not be again enumerated. But it never occurs in the normal condition of the respiratory organs, and, therefore, it always indicates a morbid state, even when occurring in the space between the shoulder-blades, except in the neighbourhood of the first dorsal vertebra, where it is heard in rare cases in healthy subjects, in dyspnoea, or deep inspiration.

The production of the bronchial respiration, like bronchophony, has been attributed by Laennec, Andral, and others, to the increased conducting power of the condensed lung, (which renders the rushing noise of the air streaming in and out of the bronchiæ more audible.) But, in addition to the foregoing arguments, opposed to better conduction of the voice, depending on the condensed state of the lung, the following is conclusive against this opinion. As the bronchia are merely passages for conducting the air into and out of the air-cells, the more the latter are capable of being expanded and contracted, the greater will be the streaming of the air through the air, bronchia, and *vice versa*. But in the healthy state, where the streaming of the air is greatest, there is no bronchial respiration at all; while, in a completely hepatised lung, where there can be no expansion or contraction of the tissue worth mentioning, and, consequently, no streaming of air through the vesicles, the vesicular respiration is loudest. The true explanation is undoubtedly that of Dr. Skoda, viz. that it is from the air in the bronchia vibrating in consonance with the respiratory sound of the larynx, trachea, and bronchi, the condition necessary for consonance being afforded by the condensed lung, as already explained under the head of bronchophony.

The bronchial respiration can be in pitch higher or lower, and in intensity weaker or stronger, than the laryngeal respiration; differences which depend upon the part of the windpipe with which the air in the bronchiæ consonates, for it does not always consonate with the larynx. These differences depend on other circumstances likewise, which it is unnecessary to detail here.

The cavernous respiration of Laennec differs in no essential particular from bronchial respiration, and cannot be taken as a diagnostic sign of a cavity, unless accompanied by the amphoric or metallic echo.

The respiratory sound, named by Laennec *respiration soufflante*, and described by him as giving rise to the sensation, when listened to, as if air was drawn from the ear of the auscultator, during inspiration, and blown into it during the expiration of the patient, is merely a strong form of bronchial respiration; and its strength depends not only upon the greater or less distance of the bronchus or cavity in which it is formed, but also upon the rapidity and amount of motion in the lungs, and the more or less perfect consonance of the parts.

Indeterminate Respiratory Sounds.—Under this term are comprehended all those respiratory sounds which cannot be referred to any of the preceding forms of respiration, or to the rattles or friction of the pleura, to be afterwards described. The respiratory murmur in the air-cells is sometimes so ill-marked, as to be indistinguishable from the respiratory sounds which spread from the deeper bronchiæ or larynx, and a weak rattle at a distance may resemble an indistinct respiratory murmur in the air-cells. As such a respiratory murmur may arise from many causes, it is impossible to say what is the cause in any given case—whether it be the entrance of the air into the air-cells; the stream of air into the larger bronchia, or a distinct rattle, or two or more of these combined. Neither the sound derived from the larger bronchia, when it is not bronchial respiration, nor the indistinct

respiratory murmurs, afford grounds for forming any conclusion as to the condition of the parenchyma of the lungs. Such being the case, any subdivision of them is superfluous, and they may be all included under the name of indeterminate respiratory sounds. Although a very skilful ear may be able to detect the transition of the distinct forms of respiration into the indeterminate, yet, whenever a sound is at all doubtful, it is much better to class it among the indeterminate, and to call in the assistance of the other signs and indications in forming a diagnosis.

The Rattles.—The rattles are sounds produced in respiration by the breaking of the air through fluids, such as mucus, blood, &c. and sometimes by its passing over solid substances, such as a fold of mucous membrane, which, in consequence, may be thrown into vibration. Most of these resemble the bursting of bubbles; others are like the creaking of leather, crepitation of salt, &c.

They differ very much in the loudness and clearness with which they are heard; also in dryness and moistness, in frequency, size of the bubbles, &c.; but to describe all these circumstances, would lead into too minute details for the present object.

Division of the Rattles.—1, The vesicular rattle; 2, the consonant rattle; 3, the crackling, or dry crepitating rattle, with large bubbles (*râle crépissant sec à grosses bulles ou craquement de Laennec*); 4, indeterminate rattles; 5, rattles with amphoric echo.

The vesicular rattle is that produced in the air-cells and small bronchial tubes. Its peculiar character is that the bubbles are very small, and of equal size. It indicates the presence of fluid, such as mucus, blood, or serum, in the finest bronchial tubes and air-cells; and also that the latter are penetrated by the air. Its presence, therefore, shows that none of the morbid conditions which prevent the entrance of the air into the air-cells can exist.

This sound corresponds to the moist crepitation of Laennec, which he considered as pathognomonic of incipient pneumonia. Its occurrence, however, in its pure form, is rare in pneumonia; and it is likewise heard in other morbid affections, such as œdema of the lungs, tuberculosis, and even common catarrh. With the view of obviating this difficulty, Laennec divided it into crepitating and subcrepitating; but, as numerous facts, attested by Andral, Chomel, Cruveilhier, and Skoda, prove that this is not a sufficient distinction, the presence of the crepitating rattle can only be held to prove the existence from some cause or other of fluid in the air-cells, and their permeability by air; and we can only conclude that pneumonia is present, if we discover its other indications.

The consonant rattle is clear, high in pitch, and the bubbles which form it are unequal in size. Such a rattle is produced in the larger branches of the bronchia, and in the trachea; but when heard at the parietes of the chest, after having been transmitted through the lungs by conduction, it loses much of its height and clearness. If, however, the conditions for consonance are present, it is heard of an intensity and clearness equal to that at the place of its origin.

The consonant rattle is therefore diagnostic of the same state as bronchophony and bronchial respiration; but, as rattles seldom occur in exudation, it indicates in general pneumonia or tuberculous infiltration.

Laennec's dry Crepitating Rattle.—This sound, according to Laennec, resembles that made by the blowing up of a dry pig's bladder. It is held to be a pathognomonic sign of vesicular and interlobular emphysema; but it occurs only in those cases in which the cells are expanded to the size of a barleycorn or bean, and communicate with a bronchial tube. It occurs also when the bronchial tube is expanded into a sac, and in excavations of the lung, which do not communicate with the bronchia by too wide an opening, and have membranous walls. The cause of the appearance seems to be that the air-cells, from having lost their resilience, instead of contracting during expiration, merely collapse when the air leaves them; and, on the

return of the air on inspiration, are suddenly expanded with a crackling noise.

It is doubtful, however, whether it be possible to distinguish this sound from that made by the presence of tough mucus in the air-cells and finer bronchial tubes.

Indeterminate Rattles.—Under this head are included all those rattles commonly called mucous rattles, which are not vesicular or consonant, and are not accompanied by the amphoric echo. They afford no information as to the state of the parenchyma of the lungs, and therefore indicate merely the presence of fluid in the bronchial tubes.

Amphoric Echo and Metallic Tinkling.—In speaking into an empty earthenware vessel, with a dilated body, there is heard, besides the voice, a peculiar humming sound; this represents the amphoric echo of Laennec. There is likewise heard in the vessel, but better in large spaces inclosed with solid walls, such as chambers, and especially vaults, frequently a metallic echo accompanying the voice, if somewhat loud. This is the metallic echo or tinkling.

In a tube that is not very wide, the amphoric echo is never produced.

In cases where there is a large cavity in the chest, whose walls are disposed to reflect sound, and which contains air, a similar sound occurs. As the conditions for its occurrence are, that the cavity be large and contain air, it has only been met with in cases of extensive excavations of the parenchyma of the lung, and in pneumothorax. Laennec believed that a cavity must contain air and fluid to enable it to exhibit these appearances, and his opinion has been universally adopted. But the presence of fluid is quite superfluous, as both a jar and a chamber produce the sound without their containing any; and if an inflated stomach, in which there is no fluid, be spoken against by means of a stethoscope, the amphoric echo and metallic tinkling are heard within it.

Laennec believed further that the cavern in the lung, or the cavity in the pleura, must communicate with a bronchial tube, to enable the sounds to occur. But only in the rarest cases of pneumothorax does a communication with the bronchia remain, while the amphoric and metallic sounds are an almost constant attendant of this morbid state. In the experiment with the stomach, there was no communication with the external air, and this leads us to the true explanation, which seems to be, that the air contained in one of the bronchial tubes consonates with the voice, and produces vibrations within the cavity of the pleura, or cavern in the lung, from which it must not be separated by more than a thin layer of parenchyma.

The mechanism of these sounds will be easily understood, if we keep in mind that they are merely the peculiar character given to the sounds of the voice and respiration, already described, by their being re-echoed in a space of considerable size filled with air.

The amphoric respiration, or *bourdonnement amphorique*, arises either from the respiratory sound in a large bronchial tube which opens into a cavity, or the re-echoing, in the pleura filled with air, of the bronchial or consonating respiration in a neighbouring tube.

The metallic tinkling, *tintement metallique*, may arise from bronchophony, from rattles, or from the agitation of fluid produced by coughing, or violent motion, re-echoing in a cavern, or in the pleura when filled with air. Of these, by much the most frequent cause are the rattles.

BIBLIOGRAPHICAL NOTICES.

*Dunglison's Human Physiology.*¹

We can obviously neither form, nor express with propriety, any opinion of this work; but we may be permitted to extract the notice prefixed to this fourth edition.

"The great advances daily making in the knowledge of the various subjects that appertain to physiology, render the preparation of a new edition of any work, which has received the general favour of the profession, a task by no means easy. In the short period that has elapsed since the appearance of the third edition, the investigations of the physiologist have been so numerous and diversified, as to render it necessary to make many modifications and additions. The extent of these cannot be appreciated by a cursory examination. They have imposed upon the author the necessity for considerable labour. The mere reference, indeed, to the various contributions—scattered through the journals of different countries and languages, as well as contained in *ex professo* treatises—requires no little time and industry. The author has found it requisite to make the most numerous modifications and additions in the second volume.

"The subject of histogeny or the development of the tissues, although much cultivated by recent physiologists, belongs perhaps more properly to general anatomy, and on this account has not been treated of *in extenso* in the present work. It was impossible, however, to pass over the recent labours of Valentin, Bischoff, Wagner, Martin Barry, T. W. Jones, and others, without notice.

"The first part of the 'Elements of Physiology' of Dr. Rudolph Wagner, translated by Dr. Robert Willis, with notes by that gentleman and others, has furnished the author much valuable matter. He has likewise added several engravings, to elucidate either topics already touched upon in the work, or such as are new in the present edition, and has endeavoured to place it in all respects on a level with the existing state of the science.

"*Philadelphia, August, 1841.*"

*Smith's American Medical Almanac.*²

It affords us pleasure to extract the following testimonial, in favour of this useful medical annual, from the British and Foreign Medical Review for July, 1841:—

"This is a valuable little work, which we really envy America the possession of; as since Mr. Farr discontinued his admirable almanac, we have nothing of the kind in England. Besides the usual contents of an almanac,

¹ Human Physiology: illustrated by engravings. By Robley Dunglison, M. D., Professor of the Institutes of Medicine and Medical Jurisprudence in Jefferson Medical College, Philadelphia; one of the Secretaries to the American Philosophical Society, &c. 8vo. 2 vols. pp. 579 and 651. Philad. 1841.

² The American Medical Almanac for 1841. By J. V. C. Smith, M. D. Vol. 3. Continued annually. 18mo. pp. 148. Boston, 1841.

it possesses all the requisites of a daily memorandum book, and contains many valuable statistical and medical documents."

Dr. Smith is preparing the almanac for 1842, and we trust that an extensive circulation may repay him for the trouble he takes to facilitate the labours of his professional brethren.

*Ruschenberger's First Book of Natural History.*¹

It is now universally admitted, that a knowledge of the animal mechanism ought to form a part of common school education. Already the subject has been introduced with great advantage into certain of our schools, and it is but necessary that works like the "First Book of Natural History," should be extensively disseminated, to have it introduced into all.

The First Book of Natural History has been prepared for the use of schools and colleges, by Dr. Ruschenberger, from the text of Milne Edwards and Achille Comte, Professors of Natural History in the colleges of Henry IV. and Charlemagne. Emanating from such competent individuals, the work could not fail to be admirably adapted for the object in view, and as such, we recommend it for general adoption.

*Dix on Strabismus.*²

The surgeon will find here, addressed to his professional brethren—the only legitimate method of publication—a detail of numerous cases operated on successfully by Dr. Dix, with a short account of the new method, which has excited so much interest both in the profession and the public, and which has been laid hold of by the mercenary, and those who have but little feeling in common with their professional brethren, as a means for acquiring unenviable notoriety. It is strange that so simple an operation should not have suggested itself to the surgeon before the middle of the nineteenth century!

*Medical Statistics of the U. S. Army.*³

This is a most valuable contribution to medical statistics, for which we are indebted to the enlarged intelligence and public spirit of the officer who presides so ably over the medical department of the army. It is the commencement of an undertaking which ought not to be permitted to flag; and which must be the source of important information, not only to the service, but to the profession generally.

¹ First Book of Natural History; prepared for the Use of Schools. By W. S. W. Ruschenberger, M. D., Surgeon in the U. S. Navy, &c. &c. 12mo. pp. 101. With plates. Philad. 1841.

² Treatise on Strabismus or Squinting, and the new Mode of Treatment. Illustrated by engravings and cases. By John H. Dix, M. D., Member of the Massachusetts Medical Society. 12mo. pp. 105. Boston, 1841.

³ Statistical Report on the Sickness and Mortality in the Army of the United States. Compiled from the Records of the Surgeon-General's and Adjutant-General's offices—embracing a period of twenty years, from January, 1819, to January, 1839. Prepared under the direction of Thomas Lawson, M. D., Surgeon-General. Published for the use of the medical officers of the navy of the United States. 8vo. pp. 376. Washington, 1840.

Arnott's Elements of Physics.¹

This valuable work has been so long before the public, and so justly appreciated by them, that it may appear a work of supererogation to speak of its sterling worth. It ought to be read by every medical student. The present edition has been carefully revised and corrected, and has been condensed into one volume. It contains all that has been prepared or published by the author.

Parker on the Stomach, and on Syphilitic Diseases.²

The estimate which we place on these works, has been sufficiently shown by our having reprinted them in the "Library." Both of them are well worthy of the attention of the practitioner.

MISCELLANEOUS NOTICES.

Inflation of the Bowels with Air as a Cure for Ileus.—In the number of the New York Medical Gazette for August 11, 1841, the editor has collected several cases of obstruction of the bowels, for which inflation of air was successfully practised. It is, as properly remarked in the article cited, an old remedy; yet we doubt much whether it was known to the facetious author of Gulliver's Travels; who, in satirising the wild schemes of various projectors, introduces the identical operation as a discovery of one of the sage doctors of the academy of Lagado.

"I was complaining," says Gulliver, "of a small fit of the colic, upon which my conductor led me into a room where a great physician resided, who was famous for curing that disease by contrary operations from the same instrument. He had a large pair of bellows, with a long slender muzzle of ivory; this he conveyed eight inches up the anus, and drawing in the wind, he affirmed he could make the guts as lank as a dried bladder. But when the disease was more stubborn and violent, he let in the muzzle when the bellows were full of wind, which he discharged into the body of the patient; then withdrew the instrument to replenish it, clapping his thumb strongly against the orifice of the fundament; and this being repeated three or four times, the adventitious wind would rush out, bringing the noxious along with it, (like water put into a pump,) and the patient reco-

¹ Elements of Physics; or Natural Philosophy, General and Medical, written for Universal Use, in plain or non-technical Language, and containing new Disquisitions and Practical Suggestions. Comprised in five parts:—1st, Somatology, statics, and dynamics; 2d, Mechanics; 3d, Pneumatics, hydraulics, and acoustics; 4th, Light and heat; 5th, Animal and medical physics. Complete in one volume. By Neil Arnott, M. D., of the Royal College of Physicians. A new edition, revised and corrected from the last English edition, with additions, by Isaac Hays, M. D. 8vo. pp. 520. Philad. 1841.

² The Stomach in its Morbid States; and the Modern Treatment of Syphilitic Diseases. By Langston Parker, M. D., Member of the Royal College of Surgeons, &c. Both works complete in one volume. 8vo. Philad. 1841.

vered. I saw him try both experiments upon a dog, but could not discern any effect from the former. After the latter, the animal was ready to burst, and made so violent a discharge as was very offensive to me and my companion. The dog died on the spot, and we left the doctor endeavouring to recover him by the same operation."

The ingenuity of Swift suggested to him, what he conceived to be a ridiculous operation; but it appears to have been successful, and is not unphilosophical; and therefore in a very different category from the other recorded inventions of the academicians of Lagado—as that of extracting sunbeams out of cucumbers; of reducing human excrement to its original food; of calcining ice into gunpowder, &c.; amongst which it is placed.

Lusus Naturæ.—We have been pleased to receive from the venerable and estimable Dr. Chatard, of Baltimore, a communication suggested by the case of *Lusus Naturæ* published in our last number, by Dr. Thruston. Dr. Chatard states, that in the year 1789 he saw in Paris, a case that greatly resembled the one in this Journal, except that the monster had two heads and two chests, and sucked both breasts of the mother at the same time, appearing to be in good health. It died at the age of four months.

Dr. Chatard refers in his letter to a case of monstrosity, communicated to him by Dr. Villeneuve, of the Académie Royale de Médecine of Paris, in the year 1831. In this case, two fœtuses were united by the crowns of the heads. They measured nineteen inches from heel to heel, making nine inches and a half for each. They were delivered naturally. The placenta was single, with two umbilical cords were attached to it. They died in the birth.

Dr. Chatard adds, that he has, in his collection of *cas rares*, two fœtuses united like the Siamese, except that they are joined from the upper third of the chest to the pubes, and, consequently, have one abdomen in common. They were aborted at three months.

Medical Department of Kemper College, St. Louis, Mo.—The present faculty of this college is constituted as follows:—John De Wolf, M. D., Professor of Chemistry and Pharmacy; John S. Moore, M. D., Professor of Theory and Practice, and the Institutes of Medicine; Richard F. Barrett, M. D., Professor of Materia Medica and Medical Botany; William Carr Lane, M. D., Professor of Obstetrics and Diseases of Women and Children; and Joseph N. McDowell, M. D., Professor of Anatomy and Surgery.

The annual circular contains the names of forty students, who attended during the last session.

Auzoux's Preparations of Artificial Anatomy.—These beautiful and ingenious contrivances, for exhibiting the anatomy of the human body as well as it can be done artificially, can be had by application to Henry Rawls & Co., No. 57 State street, Albany, who have been constituted agents for the same, and who are prepared to receive orders for them at the manufacturer's prices, to which will be added the expenses of importation, and 10 per cent. commission. All orders are executed within sixty or ninety days.

Albany Medical College.—Professor T. R. Beck.—We are glad to see that Dr. Beck's talents as a teacher are not to remain fallow. He has been recently appointed Professor of Materia Medica in the Albany Medical College. He has likewise been chosen Secretary of the Board of Regents of the University of the State of New York.

Medical College of Ohio.—Professor Harrison, of Cincinnati, has been elected to the chair of Materia Medica in the Medical College of Ohio, in the place of Dr. Oliver, who resigned after one year's service.

Philadelphia Hospital.—William H. Gillingham, M. D., has been elected one of the attending physicians of the Lying-in-Department of the Philadelphia Almshouse and Hospital, in the place of Professor James M'Clintock, resigned.

University of Maryland.—Dr. Samuel Chew, of Baltimore, has been appointed to the chair of Materia Medica in the University of Maryland—vacant by the death of Dr. Samuel C. Baker. Dr. Chew is, to our knowledge, a talented and well read physician.

Asylum for the Insane of the Commonwealth of Pennsylvania.—The legislature, at the last session, passed a law for the establishment of a State Asylum or Hospital for the Insane Poor. The appointment of commissioners for the erection of the building, and trustees for the management of the institution, was vested in the governor, who has appointed the following gentlemen:—

Commissioners.—John K. Kane, George Rundle, John W. Ashmead.

Trustees.—For one year.—Richard Rush, Dr. George M'Clellan, John White.

For two years.—Isaac Collins, Michael W. Ash, C. Wallace Brooke.

For three years.—Jacob Lex, Dr. Robley Dunglison, James Campbell.

The Bill, for the passing of which we have strenuously laboured for the last few years, is as follows:—

AN ACT TO ESTABLISH AN ASYLUM FOR THE INSANE OF THIS COMMONWEALTH.

SECTION 1. *Be it enacted by the Senate and House of Representatives of the Commonwealth of Pennsylvania in General Assembly met, and it is hereby enacted by the authority of the same,* That there shall be erected, as soon as conveniently may be, upon some suitable site to be determined and obtained as is hereinafter provided, a public asylum for the reception and relief of the insane of this commonwealth.

SEC. 2. That three suitable persons shall be appointed and commissioned by the governor to select and purchase a site for said asylum, and to contract for and superintend the building thereof. *Provided,* That the persons so appointed shall receive no compensation for their services, but their necessary expenses to be paid in the manner hereinafter prescribed.

SEC. 3. That the site and necessary grounds for said asylum shall not cost more than ten thousand dollars, and the building shall be planned and arranged for the accommodation of three hundred patients and the necessary officers, and with reference to the future enlargement of the same.

SEC. 4. That the governor be and is hereby authorised to borrow, on the credit of the commonwealth, at such times and in such sums as may be required by the provisions of this act, the sum of one hundred and twenty thousand dollars, at a rate of interest not exceeding six per cent. per annum. The said loan shall be styled the loan for the Pennsylvania Insane Asylum, and shall be reimbursable at any time after the expiration of five years—shall be transferable as other loans of this commonwealth are, and the interest thereof shall be payable semi-annually. And from the avails of the loan, the said commissioners shall have authority to draw on the treasurer of the commonwealth for a sum not exceeding forty thousand dollars on the first day of January, eighteen hundred and forty-two, and for the like sum on the first day of January, eighteen hundred and forty-three, and for the like sum on the first day of January, eighteen hundred and forty-four; and said commissioners shall, on or before the first day of October, eighteen hundred and forty-two, eighteen hundred and forty-three, and eighteen hundred and forty-four, respectively, render to the proper accounting officer of the commonwealth an exact account of all the contracts, expenses, and liabilities, which they have incurred or authorised in the execution of their commission, with vouchers for the same; and in case of their failure to do this, their authority to draw, as aforesaid, shall thereupon cease and become extinct; and said commissioners shall so build, finish, and furnish said asylum, that the whole expense of land, buildings, and furniture, with suitable apparatus for heating the rooms, for cooking, and for furnishing water for all the uses of the establishment, to accommodate three hundred patients and the necessary officers and attendants, shall not exceed one hundred and twenty thousand dollars. *Provided*, That the commissioners appointed by this act, before entering upon their duties, shall give bond with such security as may be required by the executive for the faithful application of the proceeds.

SEC. 5. That the interest of said loan shall be refunded to the commonwealth semi-annually, out of the receipts of the asylum.

SEC. 6. That the government of said asylum shall be vested in nine trustees, to be appointed by the governor, who shall serve without compensation; of those first appointed, three shall serve for one year, three for two years, and three for three years, and at the expiration of the respective periods, the vacancies to be filled by appointments for three years; and should any vacancy occur by the death, resignation, or otherwise of any trustee, such vacancy shall be filled by an appointment for the unexpired time of such trustee; the said trustees shall have charge of the general interests of the institution—they shall appoint the superintendent, who shall be a skilful physician, and shall always reside at the asylum, and they shall make such by-laws and regulations as they may think necessary; they shall also appoint a treasurer, who shall be approved by the governor, and give sufficient bonds to the commonwealth for the faithful discharge of his duties, and they shall appoint such other officers and assistants, and fix upon the compensation for their services, as may be necessary for the efficient and economical administration of the affairs of the institution. Said trustees shall have power to take and hold in trust, for the use and benefit of said asylum, any grant or demise of land, and any donation or bequest of money or other personal property, to be applied to the maintenance of insane persons in, or to the general use of, the asylum.

SEC. 7. That in the month of January, annually, the trustees shall cause to be laid before the legislature, a full account of the condition of the institution during the preceding year, and of the receipts and disbursements, both of which reports shall be made up to the end of the year preceding.

SEC. 8. That the proper courts of this commonwealth shall have power to commit to said asylum any person who, having been charged with an offence punishable by imprisonment or death, shall have been declared by the verdict of a jury or otherwise, to the satisfaction of the court, to have

been insane at the time the offence was committed, and who still continues insane.

SEC. 9. That if any person shall apply to any court of record within this commonwealth, having final jurisdiction of offences which are punishable by imprisonment for the term of ninety days or longer, for the commitment to said asylum of any insane person within the county in which such court has jurisdiction, it shall be the duty of said court to inquire into the fact of insanity; and if such court shall be satisfied that such person is by reason of insanity unsafe to be at large, or is suffering any unnecessary duress or hardship, such court shall, on the application aforesaid, commit such insane person to said asylum.

SEC. 10. That it shall be the duty of the court, in all cases where they shall commit any person to the asylum, to certify to the trustees the legal settlement of such person, if he or she shall have any legal settlement within this commonwealth; and if such person shall have no such settlement, then to certify the place of residence of such person at the time of offence committed or application made, and the poor district so certified to be the place of settlement or residence of such person, shall be chargeable with the expenses of his or her care and maintenance, and removal to and from the asylum. *Provided*, That the settlement or residence of any such person shall not be so certified, until after due notice shall have been given to the constituted authorities having charge of the poor in the district, to be charged thereby.

SEC. 11. The several constituted authorities having care and charge of the poor in the respective counties, districts, and townships of this commonwealth, shall have authority to send to the asylum such insane paupers under their charge as they may deem suitable subjects for its treatment, and they shall be severally chargeable with the expenses of the care and maintenance, and removal to and from the asylum of such paupers.

SEC. 12. That in the admission of paupers to said asylum, precedence shall always be given by the trustees to cases in which the disease is of recent origin; and if the trustees shall in any case deem it for the interest of the asylum, or of the patient, that he or she should be removed, the superintendent shall give notice to those who are responsible for his or her support, and if he or she shall not be removed within thirty days after such notice, the trustees may cause him or her to be removed, at the expense of the person or persons, body corporate or politic, who may be liable for his or her support.

SEC. 13. If the guardians, directors, or overseers of the poor, to whom any patient who shall be in the asylum is chargeable, shall neglect or refuse, upon demand made, to pay the trustees the expense of the care, maintenance, and removal of such patient, and also of the burying such patient, if he or she shall die in the said asylum, it shall be the duty of the court of quarter sessions of the county in which such patient was certified to be settled or to have resided, or from which he was removed to the asylum, by any of the constituted authorities therein having care and charge of the poor, upon complaint to the said court made by the said trustees to compel payment by said guardians, directors, or overseers, of all such expenses in the manner directed by law in the case of a judgment against overseers.

SEC. 14. The governor, judges of the several courts of record in this commonwealth, the members of the legislature, and the grand jury of the county in which the same may be located, shall be ex-officio visitors of the institution.

WM. A. CRABE,

Speaker of the House of Representatives.

CHARLES B. PENROSE,

Speaker of the Senate.

Approved this fourth day of March, A. D. eighteen hundred and forty-one.

DAVID R. PORTER.

A few Hints addressed to Medical Students about to Visit the Parisian Hospitals. By a Physician.—These hints, (says the editor of the *Medico-Chirurgical Review*,¹) are mostly worth having. We shall take one or two of them. And first a hint on lodgings and eating.

It is a matter of experience known to all the medical men of Paris, that a large proportion of the medical students are attacked with fever within a very short period of commencing their studies. Now, though this may be accounted for in many ways, and may arise from various causes, yet it is generally allowed that the situation selected for their lodgings is of itself sufficient to be an exciting cause of disease. A more unhealthy situation than some of those small and narrow streets and alleys that abound near the *Ecole de Médecine* cannot be conceived. In these parts the medical students chiefly reside, for the sake of convenience and economy; here they congregate together in the miserable *maisons garnies*, living, as they occasionally do, two or three in one apartment. The cheap restaurants, or eating-houses, that also here abound, only add to the general wretchedness of the scene, wherein, under the semblance of comfort and economy, the student is offered his *déjeuner à la fourchette* for sixteen sous, and his dinner *de quatre plats* for twenty-two sous. To many, this may appear of little importance, and to be little connected with the subject under consideration; but reason and experience will draw a different conclusion. Is it possible that the body, accustomed to nutritious and healthy food, to all the comforts of English living, to fresh and wholesome atmosphere, can meet with so sudden and so great a change as this, and not be affected by it? What quarter, then, of Paris is to be selected by the student? If the faubourg St. Germain side of the Seine must be chosen, from its contiguity to the hospitals, the rue de Seine St. Germain, or the rue de Sts. Pères, affords a far more healthy and open situation than the localities previously mentioned. True it is, that apartments may be somewhat more expensive, yet surely it is far preferable to sacrifice a small sum of money for the sake of health, than to run the risk of becoming the victim of low typhoid fever. The Tuilleries side of the water is colonised to a great extent by the English, and is certainly preferable to the faubourg St. Germain. Here lodgings are to be had tolerably cheap, but depend much on situation. In the faubourg du Roule, the continuation of the faubourg St. Honoré, lodging may be procured at a moderate price, and the situation is very healthy, but it is some distance from Hôtel Dieu, La Charité, La Pitié, &c. It is, however, contiguous to the Hôpital Beaujon, to which M. Louis has lately been appointed, during the alterations that are taking place at Hôtel Dieu. Again, with regard to meals: one wholesome dish in a respectable restaurant's, is far better than four offered for the same money in many of the cheap eating-houses. For two francs, a good dinner may be procured, and a *déjeuner* or breakfast for thirty sous, in many a clean and wholesome restaurant's. The great difference that exists between French and English living, must more or less affect every constitution, however strong it may be. It is scarcely possible to conceive of two greater extremes. In Paris, there are a set of small hotels which profess to give English dinners. These are generally as dear as they are bad; but one or two are to be found in the neighbourhood of the Boulevards des Italiens, where, at times, a tolerable English dinner is to be met with: in these, as must of necessity happen in places of like description, the company is not of the most select order; but if this can be dispensed with, it is certainly worth the while of those who are suffering from the dyspepsia of Parisian cookery to try for a time the change.

Walking the Hospitals should not be entered upon for the first three weeks after the arrival of the student in Paris. The atmosphere of Paris is very peculiar, and this is exemplified in the numerous patients that enter its hospitals, the victims of its effects on the constitution. It is a question that is

¹ July, 1841, p. 174.

asked of every patient, how long has he been in Paris? The first month is the most trying period; before, then, the student commences his labours, he should, to a certain extent, have become habituated to the change of air; his constitution should have time to accustom itself to the peculiarities of difference.

What Hospitals are worth attending?—Of the Parisian hospitals, there are none that offer such a concentration of medical skill as La Charité. This is situated in the rue des Sts. Pères, and contains between five and six hundred patients. MM. Andral, Cruveilhier, Velpeau, Rayer, Bouillaud, Fouquier, are all to be found within its wards.

He who would learn accurate diagnosis, who would study the use of the stethoscope in its mean, and not in its extreme; he who would learn pathology, by close attendance to the dead house, should follow the service of M. Andral. There are few so free from that national error, excitement, as this celebrated man.

No hospital is better known to us by name than Hôtel Dieu. It was the largest in Paris, containing at one time twelve hundred beds; but its size is much diminished, owing to the improvements which are being made in its immediate vicinity, which have rendered it necessary to pull down one of its largest wings.

Of the surgeons attached to this hospital, are men whose names are familiar to all in the profession, as MM. Roux and Breschet. The former makes his daily visit, at half past six in the summer, and at seven in the winter months, and this is followed by his clinical lecture in the amphitheatre of the hospital. M. Breschet commences his rounds at nine o'clock.

There are no less than ten physicians attached to this hospital. Amongst the most celebrated are Chomel, Magendie, and Louis. M. Chomel lectures from nine to ten on Mondays, Tuesdays, and Fridays.

Another hospital that is generally visited by foreigners, is the Hôpital St. Louis, in which an opportunity is particularly afforded of studying diseases of the skin. It is situated within five minutes' walk of the rue du faubourg St. Martin. One of the streets leading out of this, called the rue des Recollets, will be found the direct way to this hospital, which is situated in the rue de l'Hôpital, directly in front of the canal that is at the end of the rue des Recollets. Here it was that Alibert and Bielt collected their vast mass of information, and were to be found morning after morning in the midst of their squalid band of patients. But now no more remains of them than a dirty marble bust of the former—soiled by the hands of the numerous patients that mount the staircase where it is placed—to mark the haunt of this once celebrated man. Time makes sad changes in our profession, as in every other, and to this the Hôpital St. Louis bears ample testimony. MM. Lugol and Emery are the only remains of the former days of St. Louis.

M. Lugol is, in every sense of the term, a great man. He styles himself "Le grand lustre du monde." It is curious to follow him in his scrofulous wards, and there hear him descant on the miraculous powers of iodine.

Near to the Hôpital des Veneriens is the Maison d'Accouchement, or Hospice de la Maternité. There is much difficulty in gaining admission here, as no medical man has a right within its wards, excepting those that are officially attached to it. There are between four and five hundred beds within it.

The Hospice de la Salpêtrière is an establishment on a very large scale. It contains between five and six thousand beds, entirely for women. Of these, a certain number are appropriated to old and infirm persons, others are set apart for patients labouring under incurable diseases. Here it was that M. Cruveilhier compiled his admirable work on pathological anatomy, the dead-house affording no small supply of diseases, in their most hideous forms. A certain portion of this establishment is allotted to those who are of unsound mind, their number varying from a thousand to twelve hundred.

The Bicêtre is for men what the Salpêtrière is for women.

Parisian Dissecting-Rooms versus the English.—True it is that subjects for dissection are far more numerous than those in England. In this point there is certainly a superiority. When, however, the accommodations that are provided in the Parisian dissecting-rooms are taken into consideration, the preference will be given to those of our own country. Let the student who has been accustomed to the dissecting-rooms in England enter those in Paris: the stench which first assails his nasal organs is almost insupportable, from the system of smoking which is carried on within them. Again, there is nothing like decency or order kept up; portions of viscera, detached limbs, pieces of dissected muscle, fat, and cellular membrane, are seen to cover the floor. It is necessary to be careful how we tread, lest we should stumble against some limb lying in our way, or slip up, from stepping on some viscid substance that may be strewn upon the ground.

There are two great dissecting schools in Paris. One is close to the Ecole de Médecine, and adjoins Dupuytren's Museum of Morbid Anatomy; the other is situated near the hospital of La Pitié, and is called Clamart. This is one of a more modern date than the former, to which it is thought preferable. It is certainly situated in a more airy neighbourhood, and its accommodations are somewhat of a better order. It is necessary for all those who intend to dissect, to become pupils of the Internes, who have the choice of all subjects brought for dissection. Each interne has four pupils, who are attached to one subject, that is usually changed every ten days or a fortnight. The sum for the season, which lasts about five months, is about one hundred and fifty francs, or six pounds. To those who would be free from the inconveniences of the common dissecting-rooms, a means is offered of dissecting in private, by becoming the pupils of the overseer of the school, who has private rooms set apart for this purpose. He of course demands a sum of money in proportion to the convenience offered, and this more especially of the English, who are always supposed to have a superabundance of money, wherewith they can afford to pay handsomely.

*Case of Secretion of Air from the Human Skin.*³ By Sir Francis Smith.—(*The Dublin Journal of Medical Science*, January, 1841.)—An hypochondriac gentleman, thirty-five years of age, informed Sir F. Smith that he was liable to immense disengagements of gas from the stomach; that he also occasionally discharged air from the urinary bladder; and had observed an escape of air from the surface of his body when under water in the bath. Little attention was paid to the last of these statements till the 15th of May, 1840, when Sir F. Smith was hastily summoned to the bath to see the phenomenon of the disengagement of air from the skin of his patient. He was found in a bath at 79°, and his chest, abdomen, shoulders, and hands, were literally covered with small air bubbles. When he removed his hands from the bath, the bubbles disappeared; but when he replaced them below the water, the air bubbles were observed to make their reappearance, at first very minute, but gradually increased in size till the palms of his hands became again coated with them. He frequently wiped away the bubbles from his hands and chest, but in every case they were soon replaced by others. The bubbles of air ran together, when pushed with the finger, like globules of mercury, without quitting the skin, or becoming loose in the water. This circumstance was observed for twenty minutes by Sir F. Smith; and towards the end of that time, the margins of the upper end of the bath, opposite where the shoulders had been, were coated all round, for the depth of about two inches, with minute bubbles of air.

³ *Edinburgh Medical and Surgical Journal*, July, 1841, p. 289.

*On the non-occurrence of Albuminous Urine during the Dropsy which follows Scarlatina.*¹ By Dr. Philipp, of Berlin.—(*Casper's Wochenschrift für die Gesamte Heilkunde*, Nov. 1840.)—The results of Dr. Philipp regarding the occurrence of albuminous urine during the dropsical symptoms which follow scarlatina, are at variance with what have been observed in this country. In an epidemic scarlatina which raged at Berlin, he ascertained in sixty cases that the urine was not albuminous, though the dropsical symptoms were fully developed, and could only be traced to this complaint. The dropsical symptoms appeared at shorter or longer intervals; often four or five weeks after desquamation. The urine was tested both by means of heat and of nitric acid, but by neither of these was the slightest trace of albumen discovered. He is inclined to attribute this to the rarity of disease of the kidney at Berlin, seeing that for the last two years only two cases of Bright's disease of the kidney have been noticed. The scarlet fever, too, appears to vary somewhat in its type from that which occurs in this country, as he mentions that the deaths from this affection generally result from its complication with croup, as he calls it, or cerebral disorder. Dr. Philipp mentions that the dropsical symptoms are so mild and unattended with danger, that, though they occur in most cases, he has not met with one which proved fatal.

*On the prevention of Pitting in Small-pox by means of Sulphate Ointment.*² By Dr. V. Midaveine.—(*Annales de la Société de Médecine de Gand*, December, 1840.)—The danger of applying mercurial preparations to the whole surface of the body, induced Dr. Midaveine to seek some other means which would be more generally applicable, and yet possess an equally modifying power over the variolous pustule. From the success he obtained in sixteen cases of small-pox, he thinks he has found in sulphur ointment a remedy equally efficacious in preventing the maturation of the pustule, and the subsequent pitting, as the mercurial preparations, whilst its application is not attended with the same danger to the patient. He employed it of the strength of one and a half to two drams of flowers of sulphur to each ounce of lard, the smaller proportion being used for the varioloid affection, the larger for the confluent small-pox. The whole body is rubbed with this three times daily; and the sooner the application is made after the appearance of the eruption, the greater is the chance of its speedily arresting its development. The pustules shrivel and dry up under this treatment, the appetite speedily returns, and convalescence is soon established.

*Facts relative to the Statistics of Menstruation.*³ By Dr. Adelmann, of Fulda.—(*Neue Zeitschrift für Geburtskunde*, August, 1840.)—During the years 1834, 35, and 36, Dr. Adelmann ascertained the period at which menstruation had commenced in five hundred and seven individuals. From this it appeared that in girls with black hair, the average age at which menstruation commenced was 16; in girls with brown hair, the average age was 17; and in girls with fair hair, between 16 and 17. The average duration of each menstrual period, four to five days for the black-haired girls, and three to four days for the brown and fair-haired. Only one in one hundred and two cases was met with who menstruated regularly at the interval of three weeks; all the rest did so at regular periods of four weeks.

¹ Edinburgh Medical and Surgical Journal, July, 1841, p. 290.

² Ibid, p. 292.

³ Ibid, p. 298.